More specifically, in the Final Rejection, the Examiner has the following rejections under 35 USC §103(a):

A. Claims 46, 47, 59, 65, 89, 90, 96, 99, 100, 106, 110 and 116 are rejected as being unpatentable over Kadota et al. (US 5,818,550) in view of Zhong et al. (US 5,994,721).

B. Claims 48, 49, 52, 53, 60, 61, 66, 67, 91, 92, 97, 98, 101, 102, 107, 108, 111, 112, 117 and 118 are rejected as being unpatenable over Kadota et al. in view of Zhong et al. and further in view of Seo (US 6,323,521).

C. Claims 56, 62, 71, 74, 93, 103 and 113 are rejected as being unpatentable over Kadota in view of Zhong et al. and further in view of Ha (US 5,677,207)

D. Claims 57, 58, 63, 64, 72, 73, 75, 76, 94, 95, 104, 105, 114 and 115 are rejected as being unpatentable over Kadoata et al. in view of Zhong et al. in view of Seo and further in view of Ha.

E. Claims 77, 78 and 86 are rejected as being unpatentable over Kadoata et al. in view of Zhong et al. and further in view of Matsumoto (US 5,323,042).

F. Claims 79, 81, 87 and 88 are rejected as being unpatentable over Kadoata et al. in view of Zhong in view of Seo and further in view of Matsumoto.

G. Claim 68 is rejected as being unpatentable over Kadoata et al. in view of Zhong and further in view of Mikoshiba (US 5,499,123).

H. Claims 69 and 70 are rejected as being unpatentable over Kadoata et al. in view of Zhong et al. in view of Seo and further in view of Mikoshiba.

I. Claim 83 is rejected as being unpatentable over Kadoata et al. in view of Zhong et al. in view of Ha and further in view of Matsumoto.

J. Claims 84 and 85 are rejected as being unpatentable over Kadoata et al. in ivew of Zhong et al. in view of Seo in view of Ha and further in view of Matsumoto.

Each of these rejections is respectfully traversed.

Previously, the Examiner had rejected all of the pending independent claims over Kadota either alone or in view of one or more of Seo, Ha, Matsumoto, and Mikoshiba. While each of these rejections was traversed, in order to advance the prosecution of this application, the undersigned had an interview with the Examiner, and Applicants amended independent Claims

46-48, 52, 56-61 to state that the color filter covers the entire thin film transistor (and canceled Claims 50-51 and 54-55).

Kadota does not disclose or suggest a color filter covering the entire TFT. It is clear from Fig. 1 and the description in the reference that the TFT in Kadota includes a semiconductor thin film 2 and a gate electrode 3 (see "TFT" arrow in Fig. 1 and e.g. col. 3, lns. 49-50; 62-66). Kadota also makes it clear that the color filter 9 is divided into segments 9R, 9G and 9B (see e.g. col. 3, lns. 56-57; col. 4, lns. 29-30). As the Examiner agreed during the interview, none of these segments cover the entire "TFT" identified in Fig. 1 (i.e. semiconductor thin film 2 and gate electrode 3). At most, the color filters in Kadota may cover a very small portion of the TFT, though Applicants do not admit that it covers any portion of the TFT. As the Examiner agreed, this is in contrast to the present invention, as shown for example in Fig. 28A of the present application, wherein the color filter covers the entire TFT. None of the other prior cited references disclose or suggeste this feature.

In the Final Rejection, the Examiner again admits that Kadota does not disclose a color filter, wherein the color filter covers the entire first thin film transistor. The Examiner, however, cites Zhong and uses a combination of either just Kadota and Zhong, or Kadota and Zhong with the other prior cited references to reject the claims of the present application. In support of the combination of Kadota with Zhong, the Examiner states:

> "However, Zhong discloses (see, for example, FIG. 6(c)) a semiconductor device comprising a color filter 101, which covers a thin film transistor comprising a gate electrode 17. The color filter has a vias 35 for a pixel electrode that contacts the thin film transistor. The color filter permits an individual color to be displayed from a color display device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have a color filter, wherein the color filter covers the entire first thin film transistor in order to display an individual color from a color display device."

Applicants respectfully disagree with this conclusion by the Examiner and respectfully submit that a prima facie case of obviousness has not been established as the Examiner has not shown a motivation to combine Kadota with Zhong to arrive at the claimed invention.

As stated in MPEP §2142,

> "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings...
>
> "The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. 'To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.' Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP § 2144 - § 2144.09 for examples of reasoning supporting obviousness rejections.
>
> "*When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper.* Ex parte Skinner, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). A statement of a rejection that includes a large number of rejections *must explain with reasonable specificity* at least one rejection, otherwise the examiner procedurally fails to establish a *prima facie* case of obviousness. Ex parte Blanc, 13 USPQ2d 1383 (Bd. Pat. App. & Inter. 1989) (Rejection based on nine references which included at least 40 prior art rejections without explaining any one rejection with reasonable specificity was reversed as procedurally failing to establish a *prima facie* case of obviousness.)." (emphasis added)

As explained above, Kadota discloses color filter 9 divided into discrete segments 9R, 9G and 9B. See e.g. Fig. 1, col. 3, lns. 56-57 and col. 4, lns. 29-30 in Kadota. These discrete segment color filters are separated from one another and in no way cover the entire TFT (and in fact, if they cover any part of the TFT, it is an extremely small portion, as shown in the attached colored version of Fig. 1 from Kadota). It is clear that Kadota specifically designed this structure so that these color filters are separated and not over the TFT. Kadota states that "*The critical feature* of the laminated structure resides in the provision of the third layer between the second and third layers." Col. 4, lns. 40-42 (emphasis added). This third layer is planarization film 10

which separates the color filters from the pixel electrodes, protects the color filters against damaging force which may be applied to the color filters in subsequent steps of the manufacturing process, prevents impurities in the color filters from spreading into the liquid crystal, and fills in the concavities and convexities presented by the TFT and the color filters. See e.g. col. 4, lns. 29-47, col. 5, ln. 61 - col,. 6, ln. 3 and col. 7, lns. 36-47 in Kadota. Clearly, the planarization film (or third layer) is an important and critical component of the device and disclosure in Kadota and is required to meet the objection of the invention in Kodata (see e.g. col. 2, lns. 17-22 in Kadota).

The Examiner appears to overlook this teaching and criticality in Kadota and appears to contend that the color filter from Zhong would somehow be combined with Kadota to render obvious the claimed invention. In support of such combination, the Examiner states that the claimed feature would have been obvious in order to display an individual color from a color display device." This, however, is a general feature of any color filter and provides no motivation or reason for combining these references and providing a color filter covering the entire first thin film transistor.

Accordingly, Applicants respectfully submit that the Examiner has failed to provide sufficient motivation or any motivation for the combination of these references and as a result, has failed to present a prima facie case of obviousness. Further, the Examiner has failed to explain and provide an explanation with the required specificity as to how Zhong and Kadota would be combined, i.e. which elements from one reference would be substituted for which elements disclosed in the other reference. Therefore, the Examiner needs to either withdraw this rejection or clearly explain with the required specificity the motivation to combine these references, why one skilled in the art would make the proposed, combination and substitutions and how such substitutions would be made.

Additionally, it is respectfully submitted that the combination of references is improper as they teach away from one another. More specifically, in Zhong, pixel electrode 3 is formed on color filter 101. There is nothing in the reference to suggest the planarization film or third layer of Kadota or the criticality of it for the Kadota device. Hence, Kadota teaches away from using a color filter such as in Zhong wherein a pixel electrode is formed directly on the color filter without the need for a planarization film.

As stated in MPEP 2145(D)(2), "It is improper to combine references where the references teach away from their combination." As Kadota clearly requires the planarization film to meet the objections of its invention (see explanation above), the Examiner's proposed substitution would appear to interfere with this film and its objections. Therefore, it is not seen how this substitution could be made. Hence, the combination of these references is improper.

In light of the above, the combination of references appears to be based on hind sight reconstruction. A *prima facie* of obviousness cannot be based on a combination of references wherein the combinations of references is based on hindsight reconstruction using the claimed invention as a template. In re Fritch, 972 F.2d 1260, 1266 23 USPQ2d 1780, 1784 (Fed. Cir. 1992); In re Oetiker, 24 USPQ2d 1443, 1444-1446 (Fed. Cir. 1992). "[I]t is impermissible to use the claimed invention as an instructional manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 972 F.2d at 1266, 23USPQ2d at 1784. Combining references in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. In re Octiker, 24 USPQ2d at 1444-1446 (Fed. Cir. 1992).

In this case, Applicants pointed out that the prior cited references did not disclose or suggest a claimed feature of the present application, i.e. wherein the color filter covers the entire TFT. The Examiner agreed but then appears to have searched for a reference (Zhong) that he